

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* STEPHEN PAUL ZIMMERMAN,  
AMY KAI WOO and  
SUSAN LOUISE JOA

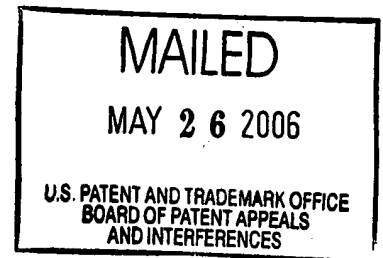
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Appeal No. 2006-1027  
Application No. 09/865,074

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ON BRIEF

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Before CAROFF, PAK, and WALTZ, *Administrative Patent Judges*.  
WALTZ, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is a decision on an appeal from the primary examiner's non-final rejection of claims 21 through 33, which are the only claims pending in this application. Although the rejection appealed from was a non-final action (mailed May 5, 2004), we have jurisdiction since the claims have been twice presented and rejected. See 35 U.S.C. § 134; *Ex parte Lemoine*, 46 USPQ2d 1420, 1422-23 (Bd. Pat. App. & Int. 1998).

According to appellants, the invention is directed to a tortilla style snack chip made from a dough composition without baking before the frying step, where the dough composition comprises a precooked starch-based material, a pregelatinized starch, and water (Brief, page 2).<sup>1</sup> Illustrative independent claim 21 is reproduced below:

21. A snack chip, wherein said snack chip is made from a dough composition comprising:

a. from about 50% to about 80% of a blend comprising:

i. at least about 50% of a precooked starch-based material;

ii. at least about 0.5% pregelatinized starch, wherein said pregelatinized starch is at least about 50% pregelatinized, and further wherein said pregelatinized starch has a peak viscosity of from about 1500 cp to about 4600 cp; a final viscosity of from about 300 cp to about 2700 cp; and a water absorption index of from about 12 to about 16; and

b. from about 30% to about 60% total water.

The examiner has relied on the following references as evidence of obviousness:

Willard	4,623,548	Nov. 18, 1986
Holm et al. (Holm)	4,994,295	Feb. 19, 1991

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<sup>1</sup>We refer to and cite from appellants' "Second Supplemental Appeal Brief" dated Feb. 28, 2005.

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Claims 21-23, 25, 27 and 33 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Willard (Answer, page 3). Claims 24, 26, and 28-32 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Willard in view of Holm (Answer, page 5).

Based on the totality of the record, we *affirm* both rejections on appeal essentially for the reasons stated in the Answer, as well as those reasons set forth below.

#### **OPINION**

The examiner finds that Willard discloses a snack product made from corn and other cereal flours, where the snack product is made from a dough composition comprising 15-80% low water absorption component (partially gelatinized cereal flours), 3-40% high water absorption component (pregelatinized starch), and a moisture content of 40-50% (Answer, pages 3-4). With regard to claim 21 on appeal, the examiner finds that Willard does not disclose the percent of gelatinization, the viscosity, or the water absorption index of the pregelatinized starch (Answer, page 4). However, the examiner notes that the claim is drawn to a product-by-process, and it is the patentability of the product which must be considered, not the properties of the starting material (dough composition) (*id.*). The examiner reasons that the dough composition is fried to form the snack product, and thus in

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the chip the pregelatinized starch will no longer have the characteristics claimed (Answer, page 5). The examiner further notes that appellants have not shown that the use of pregelatinized starch having the claimed properties results in a snack product different from the Willard product (Answer, sentence bridging pages 4-5).

Appellants argue that the examiner has not identified any sections of Willard that teaches or suggests a pregelatinized starch having the claimed characteristics (Brief, page 3). Appellants further argue that Willard fails to recognize that the percentage of pregelatinization, viscosity, and water absorption index are important, result-effective variables for making a snack chip that need not be baked before frying (Brief, pages 4-5). Appellants argue that Willard does not even recognize various degrees of gelatinization, much less that this is an important variable for making a chip without a baking step (Brief, page 4).

As correctly stated by the examiner (Answer, pages 4 and 6-8), claim 21 on appeal is written in product-by-process format. When appellants choose to use this type of claim format, the examiner only needs to meet a lesser burden of proof to make out a prima facie case of obviousness as compared to claims drafted

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in conventional formats. See *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). This lesser burden and the reasoning for it have been set forth by a predecessor of our reviewing court:

It must be admitted, however, that the lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the *product* claimed and *not* of the recited process steps which must be established. We are therefore of the opinion that when the prior art disclose a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith. *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

We determine that the examiner has established a reasonable belief that the snack product disclosed by Willard, which is made from the same dough components in the same amounts as required by claim 21 on appeal, and is made without a baking step before the frying step, is either the same or only slightly different than the claimed product. Accordingly, the burden of proof has shifted to appellants, and appellants have not presented any objective evidence that the product of Willard differs

substantially from the claimed product. *See In re Fessmann, supra.*

Contrary to appellants' arguments, we determine that Willard teaches and suggests various degrees of gelatinization, and the importance of pregelatinization, viscosity, and water absorption in making a snack product without a baking step before frying. Willard repeatedly teaches and desires that his snack product is made without any baking step before the frying step (col. 2, ll. 28-32; col. 4, ll. 6-11; and col. 11, ll. 2-9). Willard also teaches that the "pregelatinized corn flour" component is corn flour that has been subjected to sufficient moist heat treatment during processing "to gelatinize a portion of the starch thereby increasing the water absorption of the flour" (col. 5, ll. 1-5). Willard further teaches that pregelatinized corn flours are available in "varied degrees of water absorption capacity" (col. 5, ll. 5-7). Therefore Willard clearly teaches various degrees of pregelatinization as a "result-effective variable," depending on the desired water absorption of the starch. *See In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *In re Sebek*, 465 F.2d 904, 907, 175 USPQ 93, 95 (CCPA 1972); *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) (Discovery of the optimum value of a result effective variable is ordinarily within

the skill of the art).

We determine that Willard also teaches and suggests the importance of the viscosity and the water absorption values of each component, although Willard uses other methods of measuring these values than recited in claim 21 on appeal. See Willard, col. 6, ll. 32-35, where it is taught that a higher viscosity of the cereal grains is directly proportional to greater water holding ability. Willard also teaches that each component has varying viscosity (and water-absorbing ability) as temperature increases (col. 6, ll. 53-58). Although Willard uses a "Modified Bostwick Index (M.B.I.)" as a measurement of water-holding ability of the snack ingredients (col. 8, l. 27-col. 9, l. 10), Willard teaches that "[o]ther methods of absorption measurement for the cereal flours can also be adopted by those skilled in the art" (col. 10, ll. 14-16). Furthermore, Willard discloses the Brabender curves as a measurement of viscosity, determining the viscosity for each dough component as a function of temperature (col. 6, ll. 37-58). Willard further teaches the importance of the viscosity of the HIWAC ingredient (the pregelatinized starch) (col. 7, ll. 1-12). Accordingly, we determine that the discovery of the optimum water absorption value and optimum viscosity for any component in the dough composition of Willard

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would have been well within the skill of this art.

For the foregoing reasons and those stated in the Answer, we determine that the examiner has established a prima facie case of obviousness in view of the reference evidence. Based on the totality of the record, including due consideration of appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103(a). Therefore we affirm the examiner's rejection of claims 21-23, 25, 27 and 33 under section 103(a) over Willard.

With regard to the rejection of claims 24, 26 and 28-32 under section 103(a) over Willard in view of Holm, the examiner finds that Willard does not disclose the snack chip having the surface features as claimed (Answer, page 5). The examiner applies Holm for its teaching of snack products having a predetermined level of surface bubbling achieved through adjustment of the initial dough moisture, the thickness of the dough sheet, and the drying environment (*id.*). From these findings, the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of appellants' invention to adjust the parameters as taught by Holm to obtain a snack product having any desired distribution of bubbling and



surface characteristics (Answer, pages 5-6). We agree.

Appellants argue that Holm teaches production of controlled surface bubbling by use of a three step process, including baking before frying (Brief, page 6). Appellants argue that neither reference teaches the claimed characteristics as result effective variables, and Holm "teaches away" from the invention by using process parameters to control bubble formation whereas appellants control bubble formation by composition parameters (Brief, pages 6-7).

Appellants' arguments are not persuasive. As discussed above, Willard does disclose and teach the degree of pregelatinization, viscosity, and water absorption as result effective variables. Furthermore, Willard teaches that bubble formation can be controlled by the "affinity for water of the gelatinized starches" (col. 8, ll. 3-8). Accordingly, the control of bubble formation by varying the water absorption capabilities of the starch components of Willard would have been well within the ordinary skill in this art. Finally, appellants have not presented any convincing reasoning why the teachings of Holm would not be considered by one of ordinary skill in this art, whether a baking step was included or excluded from the processing.

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For the foregoing reasons and those stated in the Answer, we determine that the examiner has established a prima facie case of obviousness in view of the reference evidence. Based on the totality of the record, including due consideration of appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103(a). Therefore we affirm the rejection of claims 24, 26 and 28-32 under section 103(a) over Willard in view of Holm.

The decision of the examiner is affirmed.

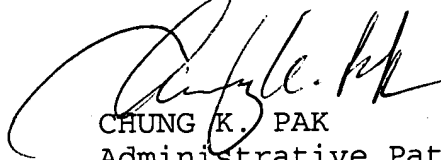
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No time period for taking any subsequent action in  
connection with this appeal may be extended under 37 CFR  
§ 1.136(a)(1)(iv)(2004).

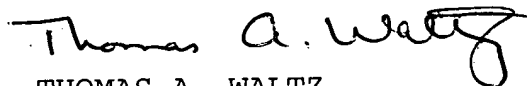
**AFFIRMED**



MARC L. CAROFF )  
Administrative Patent Judge )



CHUNG K. PAK )  
Administrative Patent Judge )



THOMAS A. WALTZ )  
Administrative Patent Judge )

BOARD OF PATENT  
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